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ABSTRACT

This article briefly describes the topics "beta coefficient"--a measurement of the price volatility of a company's stock in relationship to the overall stock market--and "market share"--an average measurement for the overall stock market based on a specified group of stocks. It then selectively recommends a database (file) on DIALOG which contains each of the subject concepts and demonstrates a step-by-step procedure for the online retrieval and post-processing of the data using Lotus 1-2-3 (Release 2.2) on an IBM PC/XT. (The specific hardware and software named are intended to serve as a model that can be expanded upon or help influence the thinking of individuals in adapting the idea to other computer systems.) The use of the REPORT command on DIALOG will illustrate how to reformat selected data from multiple records retrieved online into easily read columns for post-processing and ultimately a graph of the results. For those DIALOG databases without the REPORT command, the PARSE option on Lotus 1-2-3 will demonstrate how the post-processing of online data output can be converted into a graph. Essentially, the search results will be manipulated to the extent that actual value will be added to the information retrieved online. The article concludes with a selected list of other sources containing the beta coefficient and market share information. Two examples of online search strategies with explanatory notes and the results of various data manipulations are appended. (BBM)

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BETA COEFFICIENT AND MARKET SHARE: DOWNLOADING AND PROCESSING DATA FROM DIALOG TO LOTUS 1-2-3

Charles J. Popovich

ED326255

Figures pertaining to beta coefficient and market share are frequently sought by researchers in the field of business. In the event the researchers are end-users of online systems, the discussion which follows is intended to provide them with some insights to conducting a search on the topic as well as the post-processing of data. On the other hand, intermediary searchers may glean a perspective on the subject applicable in their role of advising or consulting with those in need of online/post-processing search assistance.

This article will briefly describe the topics beta coefficient and market share, selectively recommend a database (file) on DIALOG which contains each of the subject concepts and demonstrates a step-by-step procedure for the online retrieval and post-processing of the data using Lotus 1-2-3 (Release 2.2) on an IBM PC/XT. While the latter point recommends the use of specific computer hardware and software, it is only intended to serve as a model that can be expanded upon or help influence the thinking of individuals in adapting the idea to other computer systems. The use of the REPORT command on DIALOG will illustrate how to reformat selected data from multiple records retrieved online into easily read columns for post-processing and ultimately a graph of the results. For those DIALOG databases without the REPORT command the Parse option on Lotus 1-2-3 will demonstrate how the post-processing of online data output can be converted into a graph. Essentially, the search results will be manipulated to the extent that actual value will be added to the information retrieved online. The article will conclude with a selected list of other sources containing the beta coefficient and market share information.

BETA COEFFICIENT

The beta coefficient, often referred to as simply the beta, is a measurement of the price volatility of a company's stock in relationship to the overall stock market. The "market" as defined by some analysts is the Standard and Poor's 500 stock index which has an assigned beta value of 1.00. A company's stock with a beta of 1.00 indicates any price fluctuations will be the same as the overall market. The stock for a company with a beta greater than 1.00 means it is more volatile than the market as a whole and is associated with greater risk. A beta of less than 1.00 indicates the company's stock is less volatile than the market and considered a more conservative investment.

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In addition to the S&P 500, other groups of stocks can also be used to define the market. Some examples include the Dow Jones Industrial Averages (30 stocks), Value Line (1,700 stocks), New York Stock Exchange Composite Index (1,720 stocks), Media General Composite Index (6,100 stocks), etc. Fluctuations in the stock price for a particular company when comparing it to the market average is directly related to the

number of stocks included in the benchmark defined as the market. Consequently, a beta value will be different if the market is measured by the group of stocks from the S&P 500, Value Line, Media General, etc.

The market as defined by the Media General Composite Index represents a unique feature in that it provides two separate types of betas, i.e. an up market beta and a down market beta. An up market beta greater than 1.00 indicates the stock for the company usually moves up more than the market during overall market up-swings and a down market beta greater than 1.00 indicates the company's stock usually moves down more than the market in an overall market down-swing.[1] Obviously, an unweighted average beta for a particular company stock can be determined by totaling the up market and down market betas and dividing the results by two. A weighted average beta, on the other hand, can be calculated on the basis of an individual's expectation of the market's future performance, i.e. a "what if" situation. If it is thought the chances for the market going up are 70-30, then an individual may want to calculate an average beta by taking 70% of the up market beta and adding it to 30% of the down market beta with the total of both figures representing the weighted average beta.[2] To illustrate this point, if a company's stock has an up beta of 1.20 (1.20 x .70 = 0.84) and a down beta of .80 (.80 x .30 = 0.24) the weighted average beta would be 1.08. Based on the expectations stated in the example of a rising market, the stock of this particular company is expected to perform better than the overall market.

In addition to beta figures for the stocks of individual companies, the Media General Composite Index includes an up market and down market beta for more than 660 industries. It is possible, therefore, to make comparisons between the beta of a company's stock and the industry beta as well as the beta comparisons between the stock of various companies.

BETA MEDIA GENERAL PLUS ON DIALOG

The following is an example of retrieving beta information on DIALOG with the intent of downloading and ultimately importing the figures into Lotus 1-2-3 for a graph. A basic search strategy will be shown using the REPORT command on DIALOG for post-processing. The online search will be conducted on DIALOG's file 546 - Media General Plus.

Search Statement

THE PURPOSE OF THE ONLINE SEARCH IS TO RETRIEVE BETA FIGURES FOR THE STOCKS OF COMPANIES AS WELL AS THE INDUSTRY INVOLVED WITH THE MANUFACTURING OF BREAKFAST CEREALS.

Search Strategy and Terminology

The search strategy based on the definition of the search statement for data retrieval was developed with the aid of DIALOG's database chapter for the Media General Plus file and the report Technical and Fundamental Analysis of Stocks Using Media General Databank on Dialog.

Conducting the Search Online

SEE
FIGURE 1

NOTE To find a description of the REPORT command and a list of the DIALOG files having the REPORT capabilities simply enter ?REPORT at the DIALOG prompt (?). It is recommended the free file of the month as listed in the Chronolog be used so online search charges are not incurred.

STEPS TO A GRAPH ON LOTUS 1-2-3 (RELEASE 2.2)

While the following description is by no means an attempt to present comprehensive coverage of the operations of 1-2-3, it will include suggested commands and keystrokes that ultimately lead to a graph of the data retrieved online. It is assumed the 1-2-3 worksheet is currently displayed on the PC monitor.

Importing

The data from DIALOG, which are standard ASCII files, may be brought into the 1-2-3 worksheet by "importing" the files that were downloaded.

/F	- FILE
I	- IMPORT
N	- NUMBERS
*ESC	- ESCAPE KEY Twice
A:\	- Type to import from Drive A
ENTER KEY	- BETA.PRN is listed
ENTER KEY	- Displayed as seen in Figure 2

*NOTE: It is assumed the default disk drive setting was Drive C. The default setting may be changed from Drive C to Drive A by entering the following keystrokes at the start of a search.

/W	- WORKSHEET
G	- GLOBAL
D	- DEFAULT
D	-DIRECTORY
ESC	- Erase current directory option
A:\	- Type new default setting
ENTER KEY	
U	- UPDATE
Q	- QUIT

Save the Worksheet

Since the data are available on 1-2-3, they should be saved on disk for retrieval at another session.

/F	- FILE
S	- SAVE
BETA!	- Type worksheet file name (max. 8 characters)
ENTER KEY	

Retrieve

To work with the file at another time, enter the following keystrokes to retrieve it.

/F	- FILE
R	-RETRIEVE
ENTER KEY	

Column Width

Observation of the worksheet in Figure 2 indicates a portion of the information is not represented. To rectify the situation and to make the information line-up properly the column width settings were changed with the following keystrokes.

/W	- WORKSHEET
C	- COLUMN
S	- SET-WIDTH

22	- Type to change spaces in column A
ENTER KEY	

Global Column Width

/W	- WORKSHEET
G	- GLOBAL
C	- COLUMN-WIDTH
7	- Type to change spaces
ENTER KEY	- Displayed as seen in Figure 3

The beta information in Figure 3 indicates in a rising market (market is defined in terms of the Media General Composite Index of 6,100 stocks) the General Mills' stock is expected to outgain the overall market by 4 percent. If the market were to fall the beta for Quaker Oats, Kellogg and General Mills as well as the beta for the Cereal Breakfast Foods Industry indicates the decline should be of a lesser degree than the overall market.

Adding Column Headings

Prior to calculating a weighted average beta the following column headings were established.

RIGHT ARROW KEY	- Cell D1
.7	- Type up market beta percentage
RIGHT ARROW KEY	- Cell E1
.3	- Type down market beta percentage
RIGHT ARROW KEY	- Cell F1
WEIGHTED	- Type as column term
DOWN ARROW KEY	
AVERAGE	- Type as column term
DOWN ARROW KEY	
BETA	-Type as column term
ENTER KEY	- Displayed as shown in Figure 4

1-2-3

Formula for Calculating the

Weighted Average Beta

A beta weighted on the expectation the market has a 70-30 chance of going up may be calculated for the stock of the three companies and the industry (see page 2 for calculating the weighted average beta). 1-2-3 can do the calculations for the weighted average beta by entering the following formula.

ARROW KEYS	- Cell D6
+	- Type to indicate start of formula
B6	- Type to indicate the beta value in cell B6
*	- Type asterisk to indicate multiplication
D1	- Type to indicate an "absolute" reference cell for D1 so no matter where the formula is located it will remain unchanged
ENTER KEY	

COPY

The COPY command will permit a range of cells to be copied to a different location on the worksheet while the original cell location remains unchanged. In formulas the COPY command allows a cell reference to remain "absolute" or intact as required in the formula shown here. To illustrate the use of the COPY command in calculating the weighted average beta the following keystrokes were entered.

/C	- COPY
ENTER KEY	
	- Anchor cell D6
DOWN ARROW KEY	- Highlight cells D6 - D9
ENTER KEY	- The calculations are displayed as seen in Figure 5.

Edit the Formula

Figure 5 shows that calculations pertaining to most values in Column D were rounded off 3 decimal places. To round all beta values to 2 decimal places the formula was edited as follows.

@ROUND(+B6*D1,2)	- Type to edit formula *
ENTER KEY	
*NOTE: @ROUND	- Function to round-off decimal places

(+B6*D1, - Formula to be rounded
2) - Indicates the number of places to be rounded

COPY

/C - COPY
ENTER KEY
- Anchor cell D6
DOWN ARROW KEY - Highlight cells D6 - D9
ENTER KEY - Changes are seen in Figure 6

@ROUND in Formula

In calculating the figures for Column E the @ROUND function and formula were combined at the outset. Ultimately, the COPY command was used to complete all calculations in Column E. The following keystrokes were entered.

RIGHT ARROW KEY - Cell E6
@ROUND(+C6*E1,2) - Type *
ENTER KEY
*NOTE @ROUND - Function to round-off decimal places
(+C6*E1, - Formula to be rounded
2) - Indicates the number of places to be rounded

COPY

/C - COPY
ENTER KEY
- Anchor cell E6
DOWN ARROW KEY - Highlight cells E6 - E9
ENTER KEY - Calculations are performed as seen in Figure 7

Final Steps in Calculating the

Weighted Average Beta

Simply adding the values in columns D and E will provide the weighted average beta for the Cereal Breakfast Foods Industry and for each company's stock. The results may be calculated quite effortlessly with the following keystrokes

Formula

RIGHT ARROW KEY	- Cell F6
+	- Type to indicate start of formula
D6	- Type to indicate the beta value in cell D6
+	- Type plus to indicate addition
E6	- Type to indicate the beta value in cell E6
ENTER KEY	

COPY

/C	- COPY
ENTER KEY	
.	- Anchor cell F6
DOWN ARROW KEY	- Highlight cells F6 - F9
ENTER KEY	- Final calculations are seen in Figure 8

Graph the Data

The weighted average beta for the Cereal Breakfast Foods Industry in comparison to the weighted average beta for stocks of companies within the industry as well as the weighted average beta comparisons for the stocks of the individual companies can be made more clear with a graph. The weighted average beta values in column F of Figure 8 will be used to illustrate the point. To begin the process, the following keystrokes were entered:

/G	- GRAPH
T	- TYPE
B	- BAR
X	- X-axis
LEFT ARROW KEY	- Cell A6
.	- Anchor cell A6
DOWN ARROW KEY	- Highlight cells A6 - A9
ENTER KEY	
A	- First Data Range
.	- Anchor cell F6
DOWN ARROW KEY	- Highlight cells F6 - F9
ENTER KEY	

GRAPH TITLES

O	- Options
T	- TITLE
F	- FIRST (Type the title - max. 39 characters) WEIGHTED AVERAGE BETA
ENTER KEY	
T	- TITLE
S	- SECOND (Type the title max. 39 characters) COMPARISONS
ENTER KEY	
T	- TITLE
Y	- Y-axis (Type the title - max. 39 characters) BETA
ENTER KEY	

Grid

To more clearly illustrate the beta value and its relationship to each bar, a grid was created by entering the following steps.

G	- GRID
H	- HORIZONTAL
Q	- QUIT

Viewing the Graph

Before printing the graph it is important to view the results for corrections. Enter the following keystrokes.

V	- VIEW
ANY KEY	- To return to the worksheet

Save Results to a Graph (Picture) File

S	- SAVE
BETA2	- Type name of graph (picture) file
ENTER KEY	
Q	- Quit

Save Results to a Worksheet File

/F	- FILE

S	- SAVE
BETA3	- Type name of worksheet file
ENTER KEY	

Exit from 1-2-3

/Q	- QUIT
Y	- YES

PrintGraph

The 1-2-3 Access System contains the menu selection for PrintGraph which may be chosen with the following keystroke.

P	- PRINTGRAPH*

*NOTE: The default setting for the graph size was not changed so the printed graph will appear on a half page.

Printing the Graph

The picture file for printing the graph was selected by entering the following keystrokes.

I	- IMAGE-SELECT
SPACE BAR	- The * symbol selects the graph file "BETA2 " for printing
ENTER KEY	
A	- ALIGN
G	- GO (The graph representation is seen in Figure 9)

Exit PrintGraph

E	- EXIT
Y	- YES

Exit 1-2-3 Access System

E	- EXIT

The weighted average beta values shown in Figure 9 indicate a conservative performance based on the expectation of a 70-30 chance for an up-swing in the market

MARKET SHARE

The concept market share may be expressed in basic terms as the ratio of sales for a particular company or product to the total industry sales. As an example, market share figures may be calculated for specific products such as Sprite, Mountain Dew, RC, etc. On the other hand, share of the market figures for Goodyear, Michelin and Continental in the Tire Industry would be an example of company market share. The latter point will be examined in the section which follows.

MARKET SHARE: PTS PROMT ON DIALOG

In addition to retrieving the market share information on DIALOG, the data will be downloaded and ultimately result in a graph of the figures using LOTUS 1-2-3. While there are numerous databases on DIALOG containing market share information,[3] PTS PROMT, file 16, has been selected for this case study.

Search Statement

OBTAIN 1990 MARKET SHARE FIGURES IN TABULAR FORMAT FOR COMPANIES IN THE TIRE INDUSTRY

Search Strategy and Vocabulary

The search statement served as the basis for selecting vocabulary needed in the data retrieval. Two useful sources for defining the appropriate controlled vocabulary were the PTS User's Manual (available from Predicasts) and DIALOG's database chapter for the PTS PROMT file.

Conducting the Search Online

SEE
FIGURE 10

STEPS TO A GRAPH ON LOTUS 1-2-3 (RELEASE 2.2)

As was true previously with the search for beta information, the following discussion will not attempt to present comprehensive coverage on the operations of 1-2-3. It will simply indicate suggested commands and keystrokes which lead to a graph of the market share data retrieved online. It is now assumed the PC monitor displays the 1-2-3 worksheet.

Importing

The information from DIALOG that was downloaded may be brought into the 1-2-3 worksheet by "importing" the file. The procedure for importing the print file (MKTSHARE) may be accomplished with the following keystrokes.

DOWN ARROW KEY	- Cell A35
/F	- FILE
I	- IMPORT
T	- TEXT
ENTER KEY	- MKTSHARE.PRN was listed
DOWN ARROW KEY	- Press until the information which was downloaded is displayed as shown in Figure 11

MOVE

The MOVE command will enable a range of cells to be transferred from one part of the worksheet to another. The intent is to select the necessary information in preparation of a graph. The following keystrokes were entered.

UP ARROW KEY	- Cell A45
/M	- MOVE
	- Anchor cell A45
DOWN ARROW KEY	- Highlight cells A45 - A56
ENTER KEY	
UP ARROW KEY	- Cell A18 is where the information is taken TO
ENTER KEY	- The cell pointer will return to the portion of the worksheet where the information was take FROM
UP ARROW KEY	- Return to cell A18 where the information was MOVED
DOWN ARROW KEY	- Cell A21 - Figure 12 shows the results

Parse

The Parse option must be selected to convert the imported ASCII file from DIALOG into another ASCII file. Essentially, the data must be parsed to break-up the long labels in each cell so that individual cell entries can be created to perform the graph function. At the top of Figure 12 it is shown that Michelin (France) and the market share percentage of 22 are all part of cell A21. The Parse option will place these two items in separate cells. The keystrokes were entered as follows.

/D	- DATA
P	- Parse option
F	- FORMAT-LINE
C	- CREATE
F	- FORMAT-LINE

*E	- EDIT
ENTER KEY	- The results are shown in Figure 13

*NOTE: The format-line at different intervals contains various symbols such as value (V), label (L), date (D), continuation (>), blank space (*), etc. These symbols need to be edited if they are incorrect for the particular application.

I	- INPUT-COLUMN
.	- Anchor cell A21
DOWN ARROW KEY	- Highlight cells A21 - A29
ENTER KEY	
O	- OUTPUT-RANGE
HOME KEY	- Cell A1
ENTER KEY	
G	- GO will parse the column symbols into the output range.
HOME KEY	- Figure 14 shows the single-cell entry after being parsed, i.e. Michelin (France) is the only item now included in cell A1.

The cell contents now shows that each column in the output range contains single entries. However, notice in Figure 14 that column A is too close to column B. The global column width section which follows will demonstrate how to make this information more readable.

Global Column Width

The width of all columns can be increased by entering the following keystrokes.

/W	- WORKSHEET
G	- GLOBAL
C	- COLUMN-WIDTH
23	- Entry to change the column spaces
ENTER KEY	- Displayed as shown in Figure 15

Edit the Worksheet

The companies listed in Figure 15 are the leading tire makers of the world with each firm having 3% or more of the market. A quick tally of the market share figures indicate the eight firms collectively have 85.5% of the world tire market. Thus, a miscellaneous number of other tire manufacturers represent the remaining 14.5% share of the market. To provide a complete picture of the information in a graph format, the terms "MISC." and "14.5" were added to the worksheet. The following keystrokes were entered.

DOWN ARROW KEY	- Cell A9
MISC.	- Type for miscellaneous tire manufacturers
RIGHT ARROW KEY	- Cell B9
14.5	- Type for remaining share of the tire market
HOME KEY	- Displayed as shown in Figure 16.

Save the Worksheet

To retain the changes made to the worksheet, the file must be saved. The following keystrokes were entered.

/F	- FILE
S	- SAVE
MS	- Type the file name
ENTER KEY	

Graph the Data

A pictorial representation of the numbers from Figure 16 may be obtained with a graph. To begin the process of obtaining a graph of the data enter the following keystrokes.

/G	- GRAPH
T	- TYPE
P	- PIE
X	- X-Range to establish LABELS
.	- Anchor cell A1
DOWN ARROW KEY	- Highlight cells A1 - A9
ENTER KEY	
A	- First Data Range
RIGHT ARROW KEY	- Cell B1
.	- Anchor cell B1
DOWN ARROW KEY	- Highlight cells B1 - B9
ENTER KEY	

Graph Title

O	- OPTIONS
T	- TITLES
F	- FIRST (Type the title - max. 39 characters) MARKET SHARES OF LEADING TIRE MAKERS
ENTER KEY	
T	- TITLES
S	- SECOND (Type the title - max. 39 characters) PERCENT OF THE WORLD MARKET

ENTER KEY	
Q	- QUIT

Viewing the Graph

After the title has been entered, the next step is to view the graph for accuracy. Enter the following keystrokes.

V	- VIEW
ANY KEY	- To return to the worksheet
Q	- QUIT

Explode a Slice of the Pie

Segmenting or "Exploding" a portion of the pie chart to emphasize a particular point can be attained by entering the following keystrokes.

ARROW KEYS	- Cell C2
118	- Type the value of cell B2 plus 100 to designate the portion of the pie chart to explode
ENTER KEY	
/G	- GRAPH
B	- Second Data Range
UP ARROW KEY	- Cell C1
	- Anchor cell C1
DOWN ARROW KEY	- Highlight cells C1 - C9
ENTER KEY	

Viewing the Graph

V	- VIEW
ANY KEY	- To return to the worksheet

Save Results to a Graph (Picture) File

S	- SAVE
MSI	- Type name of graph file
ENTER KEY	
Q	- QUIT

Save to a Worksheet File

/F	- FILE
S	- SAVE
MS2	- Type name of worksheet file
ENTER KEY	

EXIT from 1-2-3

To get a print copy of the graph, it is necessary to QUIT the 1-2-3 session. Enter the following keystroke.

/Q	- QUIT
Y	- YES

PrintGraph

The 1-2-3 Access System contains the menu selection for PrintGraph which can be selected with the following keystrokes.

P	- PRINTGRAPH

Full-Page Graph

The setting for the graph size was changed to a full-page with the following keystrokes.

S	- SETTINGS
I	- IMAGE
S	- SIZE
F	- FULL
Q	- QUIT Three Times

Printing the Graph

I	- IMAGE - SELECT
SPACE BAR	- The # symbol selects the graph file "MS1" for printing
ENTER KEY	
A	- ALIGN
G	- GO (Figure 17 shows the graph results)

Exit PrintGraph

E	- EXIT

Y - YES

Exit 1-2-3 Access System

E - EXIT

The point which is emphasized in Figure 17 is that Goodyear is the only U.S. firm holding a major share of the world tire market.

Summary

The purpose of this case study was to provide a search aid for business researchers in need of timely information on the beta coefficient and market share topics. It combined the concepts of online searching and the usage of spreadsheet software. A step-by-step demonstration of data retrieved online and postprocessed into graph format was accomplished in one instance with the REPORT command on DIALOG and in another instance with the PARSE option on LOTUS 1-2-3 (Release 2.2). The graph results were intended to add value and clarity to the final presentation of the data.

Additional Sources

Information pertaining to the beta coefficient and market share may be obtained in a variety of other electronic and/or print sources. For example, the print version of the Business Periodicals Index (H.W. Wilson Company, 800/367-6770) includes journal access to articles under the subject heading "Beta Coefficients" and "Market Share". The Value Line Investment Survey (Value Line Publishing, Inc., 800/634-3583 or 800/654-0508) contains a beta value for most of the 1,700 stocks covered by the service. Also, the Standard and Poor's Stock Reports (Standard and Poor's Corporation, 800/221-3122) lists betas for some of the stocks of companies listed on the New York and American Stock Exchanges as well as Over-the-Counter. Additional market share data may be found in the Statistical Reference Index (Congressional Information Service, 800/638-8380) with relevant publications in the print source listed under the subjects and names index and under the categories index. The former includes sub-categories such as corporate rankings and product rankings as well as business income and expenses for a specific industry while the latter contains publications listed by individual company or institution and by industry. The Market Share Reporter (Gale Research Inc., 800/877-4253) lists 2,000 share of the market reports arranged by 4-digit Standard Industrial Classification codes. Aside from PTS PROMT (DIALOG Information Services, Inc., 800/334-2564) there are seventeen other DIALOG files [4] which contain some aspect of information pertaining to market share.

The reader is referred to the vendor's "800" number for additional background and other options for obtaining information on the beta coefficient and market share topics.

NOTES

[1] Technical and Fundamental Analysis of Stocks Using Media General Databank on Dialog (Richmond, VA: Media General Financial Services, Inc., [1988], 3.

[2] Ibid.

[3] Judith Sovner-Ribbler, "Finding Market Share Information Online," Database 11 (October 1988): 50-58; Correction, (December 1988): 68-69.

[4] Ibid.

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Figure 1
Search Strategy and Explanatory Comments

```
b546
        17may90 11:00:57 User004297 Session A1112.1
             $0.05    0.003 Hrs File200
      $0.05  Estimated cost File200
      $0.03  Dialnet
      $0.08  Estimated cost this search
      $0.08  Estimated total session cost    0.003 Hrs.

File 546:MEDIA GENERAL PLUS - MAY 11 1990
         (Copr. 1990 Media General)
** Use 1987 SIC Codes for SC=

       Set   Items  Description
       ---   -----  -----------
?s sc=2043

       S1        4  SC=2043  (CEREAL BREAKFAST FOODS)
?report 1/co,ub,db/all

Align paper:  press ENTER
?

                                Up       Down
Company                         Market   Market
Name                            Beta     Beta
------------------------------  ------   ------

CEREAL BREAKFAST FOODS            0.90     0.81
QUAKER OATS                       0.65     0.77
KELLOGG CO                        0.95     0.84
GENERAL MILLS INC                 1.04     0.79
?report 1/co,ub,db/all delim

Press ENTER when ready to receive
?

"","Up","Down"
"Company","Market","Market"
"Name","Beta","Beta"
"CEREAL BREAKFAST FOODS",0.90,0.81
"QUAKER OATS",0.65,0.77
"KELLOGG CO",0.95,0.84
"GENERAL MILLS INC",1.04,0.79
?logoff

        17may90 11:02:36 User004297 Session A1112.2
             $2.77    0.033 Hrs File546
             $6.00  24 Report Elements
      $8.77  Estimated cost File546
      $0.33  Dialnet
      $9.10  Estimated cost this search
      $9.18  Estimated total session cost    0.033 Hrs.
Logoff: level 23.02.1 A  11:02:36

DIALNET: call cleared by request
```

BEGIN(B) makes the initial connection to the Media General Plus database (File 546).

SELECT(S) Retrieves those records pertaining to the search. The prefix code(SC) is entered along with the Standard Industrial Classification number for the Cereal Breakfast Foods Industry (2043). There were 4 postings resulting from the search.

The Report command on DIALOG provides the opportunity to reformat selected data from multiple records into easily read columns of information. The company/ industry name(CO), the up market beta(UB) and the down market beta(DB) are requested for ALL 4 records from set 1.

The same report may be prepared for downloading with the addition of the DELIMITED post-processing format which is entered as DELIM. All fields are delimited with commas, while labels are entered with quotes making it compatible for inputting into 1-2-3.

At this point prepare to download the data with a formatted disk in Drive A:

1. Press F4
2. Press ENTER KEY
3. Press F1
4. Type BETA.PRN
5. Press ENTER KEY

The search results are downloaded and printed online.

The LOGOFF command disconnects activities with the DIALOG system and produces an estimate of the search costs.

A1: READY

	A	B	C	D	E	F	G	H
1								
2								
3		Up	Down					
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BR	0.9	0.81					
7	QUAKER OA	0.65	0.77					
8	KELLOGG C	0.95	0.84					
9	GENERAL M	1.04	0.79					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

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Figure 2
Imported Data from the Media General Plus Database on DIALOG

A1: [W22] READY

	A	B	C	D	E	F	G	H
1								
2								
3		Up	Down					
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BREAKFAST FOODS	0.9	0.81					
7	QUAKER OATS	0.65	0.77					
8	KELLOGG CO	0.95	0.84					
9	GENERAL MILLS INC	1.04	0.79					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

27-Oct-90 01:05 PM UNDO

Figure 3
Worksheet After Changing Column Settings

F3: 'BETA READY

	A	B	C	D	E	F	G	H
1				0.7	0.3	WEIGHTED		
2						AVERAGE		
3		Up	Down			BETA		
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BREAKFAST FOODS	0.9	0.81					
7	QUAKER OATS	0.65	0.77					
8	KELLOGG CO	0.95	0.84					
9	GENERAL MILLS INC	1.04	0.79					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

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Figure 4
Worksheet After Adding Column Headings

D6: +B6*D1 READY

	A	B	C	D	E	F	G	H
1				0.7	0.3	WEIGHTED		
2						AVERAGE		
3		Up	Down			BETA		
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BREAKFAST FOODS	0.9	0.81	0.63				
7	QUAKER OATS	0.65	0.77	0.455				
8	KELLOGG CO	0.95	0.84	0.665				
9	GENERAL MILLS INC	1.04	0.79	0.728				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

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Figure 5
Formula Calculations and COPY command

D6: @ROUND(+B6*D1,2) READY

	A	B	C	D	E	F	G	H
1				0.7	0.3	WEIGHTED		
2						AVERAGE		
3		Up	Down			BETA		
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BREAKFAST FOODS	0.9	0.81	0.63				
7	QUAKER OATS	0.65	0.77	0.46				
8	KELLOGG CO	0.95	0.84	0.67				
9	GENERAL MILLS INC	1.04	0.79	0.73				
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

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Figure 6
Results of Edited Formula and COPY Command

E6: @ROUND(+C6*E1,2) READY

	A	B	C	D	E	F	G	H
1				0.7	0.3	WEIGHTED		
2						AVERAGE		
3		Up	Down			BETA		
4	Company	Market	Market					
5	Name	Beta	Beta					
6	CEREAL BREAKFAST FOODS	0.9	0.81	0.63	0.24			
7	QUAKER OATS	0.65	0.77	0.46	0.23			
8	KELLOGG CO	0.95	0.84	0.67	0.25			
9	GENERAL MILLS INC	1.04	0.79	0.73	0.24			
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

27-Oct-90 01:27 PM UNDO

Figure 7
Formula Calculations and COPY Command

F6: +D6+E6 READY

	A	B	C	D	E	F	G	H
1				0.7	0.3	WEIGHTED AVERAGE BETA		
2								
3		Up Market	Down Market					
4	Company Name	Beta	Beta					
5	CEREAL BREAKFAST FOODS	0.9	0.81	0.63	0.24	0.87		
6	QUAKER OATS	0.65	0.77	0.46	0.23	0.69		
7	KELLOGG CO	0.95	0.84	0.67	0.25	0.92		
8	GENERAL MILLS INC	1.04	0.79	0.73	0.24	0.97		
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								

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Figure 8
Weighted Average Beta

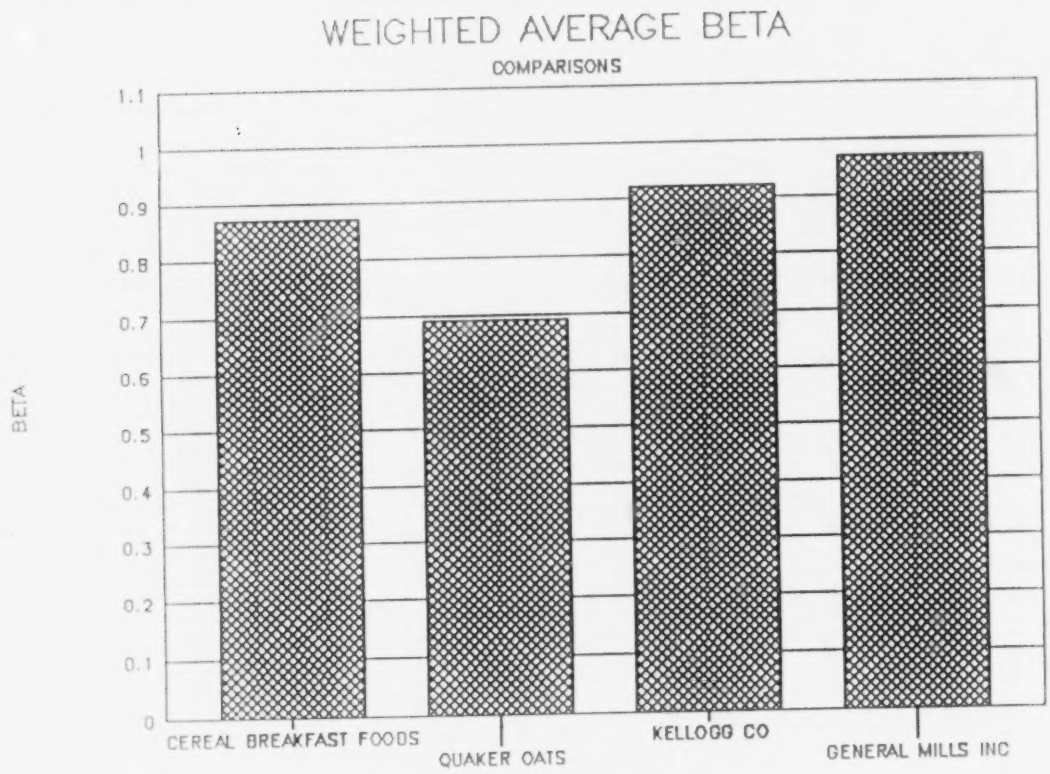

Figure 9
Weighted Average Beta: Comparisons

Figure 10
Search Strategy and Explanatory Notes

```
b16
        06jul90 13:55:13 User059630 Session A983.1
                $0.08     0.005 Hrs File200
      $0.08  Estimated cost File200
      $0.05  Dialnet
      $0.13  Estimated cost this search
      $0.13  Estimated total session cost    0.005 Hrs.

File  16:PTS PROMT_- 72-90/July 6
         (Copr. 1990 Predicasts)
**** There is no update with UD=900705. ****
** New FULL TEXT sources added to PROMT:
**    Audio Week              Drug & Cosmetic Industry      Video Store
**    BP Report               Mobile Satellite Report       Video week
**    Candy Industry          Opthalmology Times

       Set   Items  Description
       ---   -----  -----------
?ss pc=3011 and market(5n)share? and sf=table

Processing
       S1     7864  PC=3011
       S2   307056  MARKET
       S3   194084  SHARE?
       S4    50032  MARKET(5N)SHARE?
       S5    79964  SF=TABLE
       S6       41  PC=3011 AND MARKET(5N)SHARE? AND SF=TABLE
?s s6/1990
```

BEGIN(B) make the initial connection to the PTS PROMT database.

SELECT STEPS(SS) selects those records pertaining to the search and places them in separately numbered sets. The product code(PC) for tires (3011) is combined (ANDed) with the term market share (the suggested strategy is to retrieve variations on the phrase "share of the market", "share of the tire market",etc.), as well as ANDed with the special features code(SF) for retrieving records containing numeric data in tabular format. There were 41 postings with the specified combination of terms.

The search results are limited to information from the year 1990.

Figure 10
Continued

```
              41  96
          19:973  PY=1990
      S7          1  96/1990
?t s7/4/1
```

Set 7 indicates there is 1 record with the requested combination of terms for the year 1990.

TYPE(T) command requests that set 7 be printed in format 4 listing the one record.

```
 7/4/1
00421652
The World Tire Market

New York Times (National Edition)   February 11, 1990   p. F3
ISSN: 0362-4331

     World: Market shares of leading tire makers
                                        % world
                                       market
Michelin (France)                        22
Goodyear (US)                            18
Bridgestone (Japan)                      17
Continental (W Germany)                  7.5
Pirelli (Italy)                           7
Sumitomo (Japan)                         6
Yokohama (Japan)                          5
Toyo (Japan)                             3
Source: McDonald & Company
?logoff
```

STOP!

Do not press the Enter Key after the TYPE command. Instead prepare to download the search results. With a formatted disk in Drive A enter the following steps:

1. Press F4
2. Press Enter Key
3. Press F1
4. Type mktshare.PRN
5. Press Enter Key

The search results are downloaded and printed online.

The LOGOFF command disconnects activities with the DIALOG system, and produces an estimate of the search costs.

```
06jul90 13:57:32 User059630 Session A983.2
      $6.30     0.050 Hrs File16
         $0.85  1 Type(s) in Format  4

         $0.85  1 Types
      $7.15  Estimated cost File16
      $0.50  Dialnet
      $7.65  Estimated cost this search
      $7.70  Estimated total session cost    0.050 Hrs.
Logoff: level 24.01.1 A  13:57:32

DIALNET: call cleared by request
```

```
A56: 'Source: McDonald & Company                                    READY

      A        B        C        D        E        F        G        H
37
38   7/4/1
39  02421652
40  The World Tire Market
41
42  New York Times (National Edition)   February 11, 1990   p. f8
43  ISSN: 0362-4331
44
45      World: Market shares of leading tire makers
46                                  % world
47                                 market
48  Michelin (France)               22
49  Goodyear (US)                  18
50  Bridgestone (Japan)             17
51  Continental (W Germany)         7.5
52  Pirelli (Italy)                  7
53  Sumitomo (Japan)                6
54  Yokohama (Japan)                 5
55  Toyo (Japan)                    3
56  Source: McDonald & Company
27-Oct-90  03:12 PM        UNDO
```

Figure 11
Imported Data From the PTS PROMT Database on DIALOG

```
A21: 'Michelin (France)                22                              READY

        A          B          C          D          E          F          G          H
18      World: Market shares of leading tire makers
19                                        % world
20                                       market
21  Michelin (France)                     22
22  Goodyear (US)                        18
23  Bridgestone (Japan)                   17
24  Continental (W Germany)              7.5
25  Pirelli (Italy)                       7
26  Sumitomo (Japan)                      6
27  Yokohama (Japan)                      5
28  Toyo (Japan)                          3
29  Source: McDonald & Company
30
31
32
33
34
35
36
37
27-Oct-90  03:20 PM          UNDO
```

Figure 12
The MOVE Command and the Transfer of Cells BEFORE the Parse Option

```
A21: |L>>>>>>>>>>>>>>>>>>>>>>>>>>>>***V>>>*                          MENU
Format-Line  Input-Column  Output-Range  Reset  Go  Quit
Create or edit a format line at the current cell
```

Parse Settings

Input column:

Output range:

22	Michelin (France)	22
23	Goodyear (US)	18
24	Bridgestone (Japan)	17
25	Continental (W Germany)	7.5
26	Pirelli (Italy)	7
27	Sumitomo (Japan)	6
28	Yokohama (Japan)	5
29	Toyo (Japan)	3
30	Source: McDonald & Company	
31		
32		
33		
34		
35		
36		
37		

```
27-Oct-90  03:26 PM                                          CALC
```

Figure 13
Parse Option and Format-Line Editing

```
A1: 'Michelin (France)                                          READY

      A          B          C          D          E          F          G          H
1   Michelin      22
2   Goodyear      18
3   Bridgesto     17
4   Continent    7.5
5   Pirelli (      7
6   Sumitomo       6
7   Yokohama       5
8   Toyo (Jap      3
9
10
11
12
13
14
15
16
17
18        World: Market shares of leading tire makers
19                                        % world
20                                       market
27-Oct-90  03:29 PM          UNDO
```

Figure 14
Single Cell Entry AFTER the Parse Option

A1: 'Michelin (France) READY

	A	B	C
1	Michelin (France)	22	
2	Goodyear (US)	18	
3	Bridgestone (Japan)	17	
4	Continental (W Germany)	7.5	
5	Pirelli (Italy)	7	
6	Sumitomo (Japan)	6	
7	Yokohama (Japan)	5	
8	Toyo (Japan)	3	
9			
10			
11			
12			
13			
14			
15			
16			
17			
18	World: Market shares of leading tire makers		
19		% world	
20		market	

27-Oct-90 03:32 PM UNDO

Figure 15
Worksheet After Global Column Width Entry

A1: 'Michelin (France) READY

	A	B	C
1	Michelin (France)	22	
2	Goodyear (US)	18	
3	Bridgestone (Japan)	17	
4	Continental (W Germany)	7.5	
5	Pirelli (Italy)	7	
6	Sumitomo (Japan)	6	
7	Yokohama (Japan)	5	
8	Toyo (Japan)	3	
9	MISC.	14.5	
10			
11			
12			
13			
14			
15			
16			
17			
18	World: Market shares of leading tire makers		
19		% world	
20		market	

27-Oct-90 03:40 PM UNDO

Figure 16
Worksheet With Editing Completed

Figure 17
Market Share of Leading Tire Makers